

## **THE INTERNATIONALIZATION STRATEGIES OF INFORMATION TECHNOLOGY FIRMS FROM BRAZIL: DAN AHP ANALYSIS OF IVIA'S CASE**

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### **ABSTRACT**

A large body of literature describes the internationalization process of diverse firms worldwide; however it is imperative to understand how firms from emerging countries behave when they decide to internationalize. This paper provides a comprehension of the main factors that increase the probability of success of the internationalization process of Information Technology – IT firms in Brazil according to three internationalization theories OLI, RBV and Networks. Ivia's case was selected and in-depth interviews were held with the three key Ivia executives. This research used the Analytic Hierarchy Process – AHP in order to evaluate the relative importance of factors and sub-factors proposed by the theories considered. The results indicated that Ivia's internationalization strategy focused primarily on the formation of strong and steady partnerships with foreign IT service providers, clients, and research and development institutions in order to seize opportunities abroad. The company exploited location advantages and resources, which include the international knowledge and experience of the top managers and the capability to satisfy its clients' specific needs through the development of customized products and services. The results may be useful to executives and researchers of strategic management and to those who want to study deeper this field.

**Keywords:** Information Technology. Internationalization. Strategy. AHP. Ivia.

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## 1 INTRODUCTION

Globalization is viewed as one dominant imperative driving business strategy in this century, once markets have become overmuch integrated, and more firms worldwide are expanding operations on a global scale (GHEMAWAT, 2010). Since this path is not confined to Multinational Enterprises (MNEs) anymore, firms of all sizes can identify and satisfy needs of different marketplaces throughout the world (KNIGHT; CAVUSGIL, 2009).

Melin (1992) relates that the strategy process determines the ongoing development and change in the international firm in terms of scope, business idea, action orientation, organizing principles, nature of managerial work, dominating values and converging norms. However, the internationalization of new ventures from emerging economies to developed economies remains an unfilled gap at the intersection of the literature between international entrepreneurship and strategy in emerging economies (YAMAKAWA; PENG; DEEDS, 2008). Moreover, internationalization strategy has been documented in different countries (e.g. India, China and Mexico) by a large body of both theoretical and empirical studies. However, little attention has been paid to examine this strategy in the case of Information Technology (IT) firms (ROZTOCKI; WEISTROFFER, 2008), since studies on IT firms are still limited (e.g., SOUSA; LENGLER, 2009; BIRD; ZOLT, 2008).

Therefore, there is a lack of understanding of the forms of knowledge and expertise from IT Brazilian firms. Since not all firms have the same opportunities and abilities to internationalize, there will probably be a pattern to follow according to various internationalization theories applied to this sector, such as network relationships (e.g. JOHANSON; VAHLNE, 2009; HILTUNEN; KUUSISTO, 2010; OJASALO, 2011; MOEN, GAVLEN; ENDRESEN, 2004), Resource-Based View (RBV) (e.g. BARNEY, 1991; WERNEFELT, 1984) and OLI theories (e.g. DUNNING, 1977, 1980, 1995 and 2000). Thus, the research question that motivated this study was the following: in the perspective of top executives, which factors are more important in order to information technology firms from Brazil devise successful internationalization strategies?

This paper examines, as a starting point of a larger research project motivated by this question, one company within the Information Technology services from Brazil. This company is Ivia, a rare case of a Brazilian IT firm that became an international player.

Thus, the main objective of this paper is to determine, through an application of the Analytical Hierarchy Process (AHP) methodology, developed by Saaty (1977), which factors were considered more essential in order to develop Ivia's successful internationalization strategy. Hopefully, this analysis will provide invaluable insights to other Brazilian IT companies that are aiming to internationalize their operations and/or attempting to be successful abroad.

## **2 INTERNATIONALIZATION THEORIES**

In order to focus the scope of the analysis, three theoretical approaches were chosen so that the relative importance of the main factors that drive Ivia's internationalization process could be properly determined. They are: (i) OLI or Eclectic Paradigm; (ii) Resource-Based View (RBV), and (iii) Networks.

### **2.1 Ownership, Location, Internationalization (OLI)**

The OLI or Eclectic Paradigm was developed by Dunning as an attempt to bring together different strands of internationalization theories into one approach (DUNNING, 1977, 1980, 1995 and 2000; KUSLUVAN, 1998). It consists of three factors that could generate three types of advantages: (i) ownership advantages, (ii) location advantages and (iii) internationalization advantages.

According Dunning (1977, 1980, 1995 and 2000) and Kusluvan (1998), ownership advantages are both firm and market-specific, and could arise from any type of asset that allows a firm to engage in production activities in other countries. More specifically, these advantages arise if the firm owns specific assets that are not available to other firms or are generated when the firm is able to reduce transaction costs compared to the external market. In practice, ownership advantages exist due to a firm's exclusive access to specific technological, managerial, financial or marketing assets, or because it possesses better organizational capabilities to integrate separate value-adding activities.

Location advantages could be seized by a firm if it is located in a foreign country that presents several specific characteristics related to the existence of abundant natural resources and other factor endowments, favorable economic environment, cultural and social proximity, stable political and legal environments, beneficial taxation regimes etc. For that, according to

Dunning (1977, 1980, 1995 and 2000), Kusluvan (1998), and Rocha (2010), the firm must possess ownership specific advantages over the firms in the foreign market.

Internationalization advantages arise whenever a firm is able to reduce transaction costs in foreign markets by internationalizing specific ownership advantages, i.e., whenever a firm is able to engage in production activities by itself at a lower cost if compared to partnership arrangements such as licensing or joint ventures due to its privileged firm-specific advantages (BUCKLEY; CASSON, 2009; WILLIAMSON, 2005). As Dunning (In: Kusluvan, 1998; Zhu, 2008; Rocha, 2010) argues, firms will establish an international market in order to avoid high and uncertain transaction costs caused by market failures or imperfections.

According to Kusluvan (1998), the OLI paradigm has analytical power to address important issues such as: (i) what motivates national firms to go abroad, (ii) what the reasons for different forms of investment of national firms abroad are, and (iii) what enables national firms to go abroad and be successful.

## 2.2 Resource-Based View (RBV)

According to Dunning and Lundan (2008), resource-based view is one of the leading theories of the firm, and focus on how firms obtain competitive advantage in relation to other firms by adopting mechanisms that attempts to ensure the uniqueness of particular firm's resources, capabilities and access to markets.

In this model, resources represent tangible and intangible assets controlled by a firm that are used in order to create and implement strategies. Hopefully, for sustained competitive advantage, these resources are valuable in the sense that they can neutralize possible threats; they are rare, i.e., controlled by a small number of firms; and they are difficult to be imitated by the competitors. Capabilities would then be a subset of a firm's resources (BARNEY, 1991; HESTERLY, 2007; NARAYANAN; BHAT, 2009).

More specifically, this view considers that in a globalized economy “regards knowledge as a critical firm specific capability and international knowledge and experience as a valuable, unique, and hard to imitate resource” (DUNNING; LUNDAN, 2008, p. 576).

Ownership factors in the OLI framework are very similar to the strategic resources in the Resource-Based View, but one has to consider that RBV is actually a more general theory that considers the role of strategic resources in determining competitiveness of the

firms, while OLI framework is more focused on the examination of FDI mode of internationalization” (NARAYANAN; BHAT, 2009).

Dunning and Lundan (2008) also argue that resource-based view is intrinsically related to evolutionary economics, where the analysis focus on the path dependency of existing assets and on the accumulation of new assets through learning and knowledge dissemination processes within the firm.

Furthermore, as these authors indicate “the content and structure of the O-specific advantages of a particular firm, including those which are country specific, may critically affect how particular resources and competences are created, accessed or deployed” (DUNNING; LUNDAN, 2008, p. 576).

### 2.3 Networks

According to this theory, the business environment is viewed as a network formed by a web of complex relationships between suppliers and customers. In these types of relationships, trust-building and knowledge creation are essential to develop new knowledge and to build commitment, which are preconditions for internationalization (JOHANSON; VAHLNE, 2009). Furthermore, networks may help a firm to penetrate into new markets (HILTUNEN; KUUSISTO, 2010).

According to Ojasalo and Ojasalo (2011, p. 71), “Networks are evolving organisms and their dynamics is caused by the fact that actors, relationships, needs, problems, capabilities, and resources change over time”.

Additionally, Hara and Kanai (1994 apud MOEN; GAVLEN; ENDRESEN, 2004, p. 1239) claim that

*if the firm is faced with increasing demand, sophisticated customers, and a volatile competitive market, as well as a product that is strategically important or unable to be standardized – successful internationalization may well require the firm to leverage the skills and resources of other organizations. These characteristics are found in the software industry and it is therefore reasonable to believe that network relationships are important in the internationalization of small software firms.*

### 2.4 Born Globals

Although this theory was not used in the methodology procedures of this study, we believe it would be useful to clarify some characteristics in order to derive some implications after the case analysis. Born globals, international new ventures, or global start-ups are different names introduced by scholars (e.g. HANNAN; FREEMAN, 1984; RENNIE, 1993;

OVIATT; McDOUGALL, 1994, 1995, 1997 and 1999) focusing on the same phenomenon of early and rapidly internationalizing firms.

Dimitratos and Jones (2005) argued that the essential activities of these firms are the exploitation and discovery of foreign market opportunities, including individual network connections in international markets. McDougall, Shame and Oviatt (1994) indicate that the international knowledge acquired by founders and managers, often prior to the start-up of the firms, is another fundamental characteristic of born global firms. Oviatt and McDougall (1994) defined as a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries.

Moreover, some other characteristics from born global firms are also (1) the founder's or a manager's knowledge of foreign markets (AUTIO, 2005), specifically within high-technology industries due to founders and managers have sophisticated technological knowledge (SHARMA; BLOMSTERMO, 2003); and (2) they also have developed personal networks which led them to acquire business opportunities during these prior experiences (SHARMA; BLOMSTERMO, 2003).

### 3 INTERNATIONALIZATION OF INFORMATION TECHNOLOGY FIRMS

Service provisioning is globalizing and the demand for Information Technology (IT) services is still increasing while outsourcing is growing even faster (ALLIE et al. 2010). Due to the increase in global demand for IT services, BRIC countries – Brazil, Russia, India and China – are growing in importance in the provisioning of IT services (SAXENA, 2010). The World Bank (2011) emphasizes that developed countries simply do not have enough qualified IT professionals available to keep up with this growth. Thus, emerging countries are in a good position to provide highly trained employees, since according to IMD (2010) two-thirds of all university-educated young professionals come from developing countries and this is also an opportunity to develop their home countries.

There are two different kinds of IT service providers called: (a) native service providers (from multinational corporations and with their headquarters in a developed country), and (b) foreign service providers (with their headquarters in a developing countries) (BEULEN et al., 2006). Nowadays, India is the offshore outsourcing market; however China and some other countries from the Eastern European (e.g. Poland, Hungary, Czech Republic,

Bulgaria, and Ukraine) market are still under pressure for the high demand of international IT services (BEULEN, 2008). Therefore, it is part of the aims of this research to better analyze the strategies of Information Technology firms, mainly from Brazil.

Some previous studies have contributed to the literature on the internationalization process of Brazilian IT companies. For instance, Cerqueira and Araújo (2008) pointed out some barriers on promoting the internationalization process of IT firms, specifically in exporting software. Their outcomes trace financing in order to invest in infrastructure and international markets adequacy demands of products and services. Another barrier is the high exporting tariff, which increases the price of the final services in the international market, leading Brazilian firms less competitive in the international market.

Cassano et al. (2009) studied the internationalization process of four Brazilian firms in search of new opportunities in the global market. They found out that these firms experienced the same barriers mentioned by Cerqueira and Araújo (2008); nevertheless the gains were higher, for instance: financial outcomes, higher brand acknowledgement, both growth in revenue and market share, expansion to new markets, networking, prestige and status.

Yassuki (2009) traced from a case study an analysis of the internationalization process of a Brazilian IT firm under the aspects of strategy, entry mode and internationalization challenges. The author pointed out some aspects such as culture, risk, return of investment; notwithstanding some other aspects appeared, e.g., control, liability of foreignness and loss of advantage. Moreover, one of the most important issues is the suggestions of the partners/suppliers by pointing out new opportunities in other countries, mitigating the risk of the businesses and the excess of dependency in the domestic market.

Finally, Krakauer et al. (2010) analyzed the strategy of small and middle-sized Brazilian IT firms. They studied three different aspects: the selection of partners and the strengths, weaknesses, advantages and disadvantages of the alliances during the internationalization processes. The authors argued that some cultural issues were mentioned by the firms, for instance: the rejection of the American market from Brazilian firms during the initial selling process of software. Other evidences were found such as cost reduction and easier access to international market. Indeed, they also mentioned the importance of the international partners and networking.

#### **4 IVIA'S INTERNATIONALIZATION PROCESS**

Ivia was found in 1996 and it is part of the service sector as an IT company outsource software exporter, and has its headquarters in the Northeast of Brazil, in the city of Fortaleza, but there are several other offices and partners in Brazil (Recife, Natal and Salvador) and in some other cities worldwide such as in Florida (USA), London (GB) and Lisbon (Portugal).

It started as an Internet Service Provider targeting the corporate market; nonetheless, nowadays, Ivia is a premier IT services provider with core competencies in offshore IT staffing, on-demand services, custom application development, web design and IT consulting. It is only a two-hour difference (GMT-3) from the US East Coast (New York, Miami, Boston) and three-hour difference from other cities in Europe (e.g., London and Lisbon), becoming an easier service desk communication from clients in the USA and the European Union. Fortaleza is at a 7-hour flight distance from the United States, Europe and Africa and Ivia belongs to a local IT cluster with more than 10 universities (with computer science courses), technology institutes and other important agents.

All the main executives of Ivia were former IBM business executives in Brazil with different characteristics for instance: Alexandre Menezes is in the core business; Edgy Paiva is in the technological responsibility; and Marcio Braga, who was only part of the company in 2005, is responsible for the R&D, services and consulting.

Ivia started its internationalization process in 2002 with the scarcity of services in the State of Ceará, in Brazil, and with the opportunity to some specific services to the Portuguese Espírito Santo Bank. Notwithstanding, a strategic alliance was formed with the Portuguese Noesis Portugal SA, which its focus was in consultant projects in information technology. In 2006, another Portuguese partnership was formed, VisionWay with focus on consultant and implementation services in IT service management, service desk and business performance. Indeed, the aim of this alliance was the expansion to the international market. Thus, according to the Ivia executives, the physical distance from Brazil and Portugal and the establishment of networks from strategic alliances were interestingly relevant to their internationalization process.

Ivia's case is indeed very illustrative and certainly will provide invaluable insights for this research. For further details, see the teaching case study about this firm developed by Rocha et al. (2010).



## 5 METHODOLOGY

### 5.1 Data Collection

The data were collected through an in-depth interview with the three key Ivia executives, which occurred in July 2011 at the Ivia headquarters in the city of Fortaleza, Brazil. The interview schedule was semi-structured, encouraging an extensive and descriptive answer, and allowing any key points, which were raised by the interviewees to be explored in greater detail by the interviewers. However, the main purpose of the interview was to determine, in Ivia's perspective, which factors and sub-factors were more important in order to devise their successful internationalization strategy. More specifically, these factors and sub-factors were determined according to internationalization theories described earlier.

### 5.2 Analytic Hierarchy Process (AHP)

As Hortacsu & Tektas (2009) pointed out, one of the first multi-criteria decision methods invented, and perhaps the most used, is the Analytical Hierarchy Process (AHP), developed by Saaty (1977). In this method, a decision process could be decomposed into hierarchical levels, so that a number of factors and sub-factors which affect the final decision could be evaluated and weighed. More specifically, factor weights are calculated systematically throughout the analytic hierarchy process which significantly reduces bias and subjectivity.

Nunes Junior and Chamon (2006) add that the AHP method assumes that experience and knowledge of the decision makers are as invaluable to a decision as the data used, allowing the analysis of tangible aspects (e.g., financial aspects) and intangible aspects (e.g., decision maker's preferences) of the decision.

In terms of the use of this method, Hortacsu and Tektas (2009) and Pamplona (1999) indicate that first the decision maker answers the question 'How important is factor A compared to factor B in reaching the final goal?' Then, according to his/her answers, a perception matrix can be constructed, as in Table 1.

Factor	$F_1$	$F_2$	...	$F_n$
$F_1$	1	$a_{12}$	...	$a_{1n}$
$F_2$	$1/a_{12}$	1	...	$a_{2n}$
...	...	...	...	...
$F_n$	$1/a_{1n}$	$1/a_{2n}$	...	1

**Table 1:** Perception Matrix.

**Source:** Pamplona (1999, p. 4).

Saaty (2008), Pamplona (1999), and Hortacsu and Tektas (2009) point out that  $F_1, \dots, F_n$  represent the factors (or sub-factors) affecting a decision. The responses are evaluated using a perception scale as the one suggested by Shimizu (2001), presented in Table 2.

The next step in the analysis consists in converting the data in the factor perception matrix into a set of weights according to the methodology developed by Saaty (In: PAMPLONA, 1999). Afterwards, a test also proposed by Saaty should be performed in order to assure that the comparisons made by the decision makers are consistent.

Perception	Evaluation (a)
Equally preferable	1
From equally to moderately preferable	2
Moderately preferable	3
From moderately to strongly preferable	4
Strongly preferable	5
From strongly to very strongly preferable	6
Very strongly preferable	7
From very strongly to extremely preferable	8
Extremely preferable	9

**Table 2:** Perception Scale

**Source:** Shimizu (2001, p. 296).

These same procedures should be repeated to the sub-factors involved in a decision in order to assign normalized weights to these sub-factors, i.e., the same procedure described before should be repeated to evaluate the criteria at each level of the hierarchy. The final weights of each sub-factor will be obtained by the product between the normalized weight of the factor and the normalized weight of the sub-factor. The higher the final weight the more important in relative terms is considered each sub-factor (HORTACSU; TEKTAS, 2009; AYTEKIN, 2011, PAMPLONA, 1999; MOURA et al., 2011).

It is worth mentioning that according to Pamplona (1999), Saaty's method was tested in several types of decision problems, and the results obtained from respondent's opinions were considered consistent with real data.

### 5.3 Using AHP Methodology in Ivia's Case

Ivia's goal is a successful internationalization process. The main factors (constructs) that were evaluated according to the opinion of its top managers in terms of their relative importance to the achievement of this goal are the ones related to the theoretical frameworks discussed earlier: (i) ownership advantages; (ii) location advantages; (iii) internationalization advantages; (iv) resources; and (v) networks.

As mentioned before, each factor was properly explained to each top manager so that they clearly understood their meaning and implications to the internationalization process of the firm. The same happened with the sub-factors that were defined according to the specialized literature as well as by taking into consideration the specific aspects of the sector and the company in analysis. These sub-factors will be presented in the Results section.

Thus, the perception matrices were elaborated and the AHP method was applied according to the methodology previously presented.

## 6 RESULTS

The results of the analysis of Ivia's top executives' perceptions about the relative importance of the pre-selected factors and sub-factors to successful strategy formulation based on the internationalization theories presented earlier through the AHP methodology are presented in Figure 1. It is worth mentioning that these results were considered satisfactory since all consistency test results were within the acceptable bounds.

According to the results, the factor (construct) that was considered the most important by Ivia's top executives was *Networks* with a relative weight of 0.5104. This outcome is indeed impressive and indicates that having ties with partners abroad seems to be essential to the internationalization process of small IT firms. This idea was emphatically corroborated by Ivia's top executives during the interview when they argued that it was essential for their expansion abroad the knowledge of partners that introduced the company with new opportunities in the foreign markets. These outcomes were also corroborated by the arguments that the international knowledge and personal networks from born global's executives are essential for the international start-up and development of a firm (SHARMA; BLOMSTERMO, 2003; AUTIO, 2005; McDOULGALL; SHAME; OVIATT, 1994).

In terms of the sub-factors within this construct, the one that was deemed more important was to have partnerships for the development of new technologies and products, with a final weight of 0.2479, followed by having partnerships for product distribution (0.1134) and having partnerships with clients (0.0690). According to the discussion above, this ordering seems to be in sync with Ivia's top executives' perceptions since they argued that expansion abroad is stimulated when foreign partners want to team up in order to develop or outsource customized services for clients. This seemed to have been particularly important for the company in the partnership with Noesis in Portugal. In this context, the foreign

partners could also help in the distribution of the company's products and introduce the company to new clients.

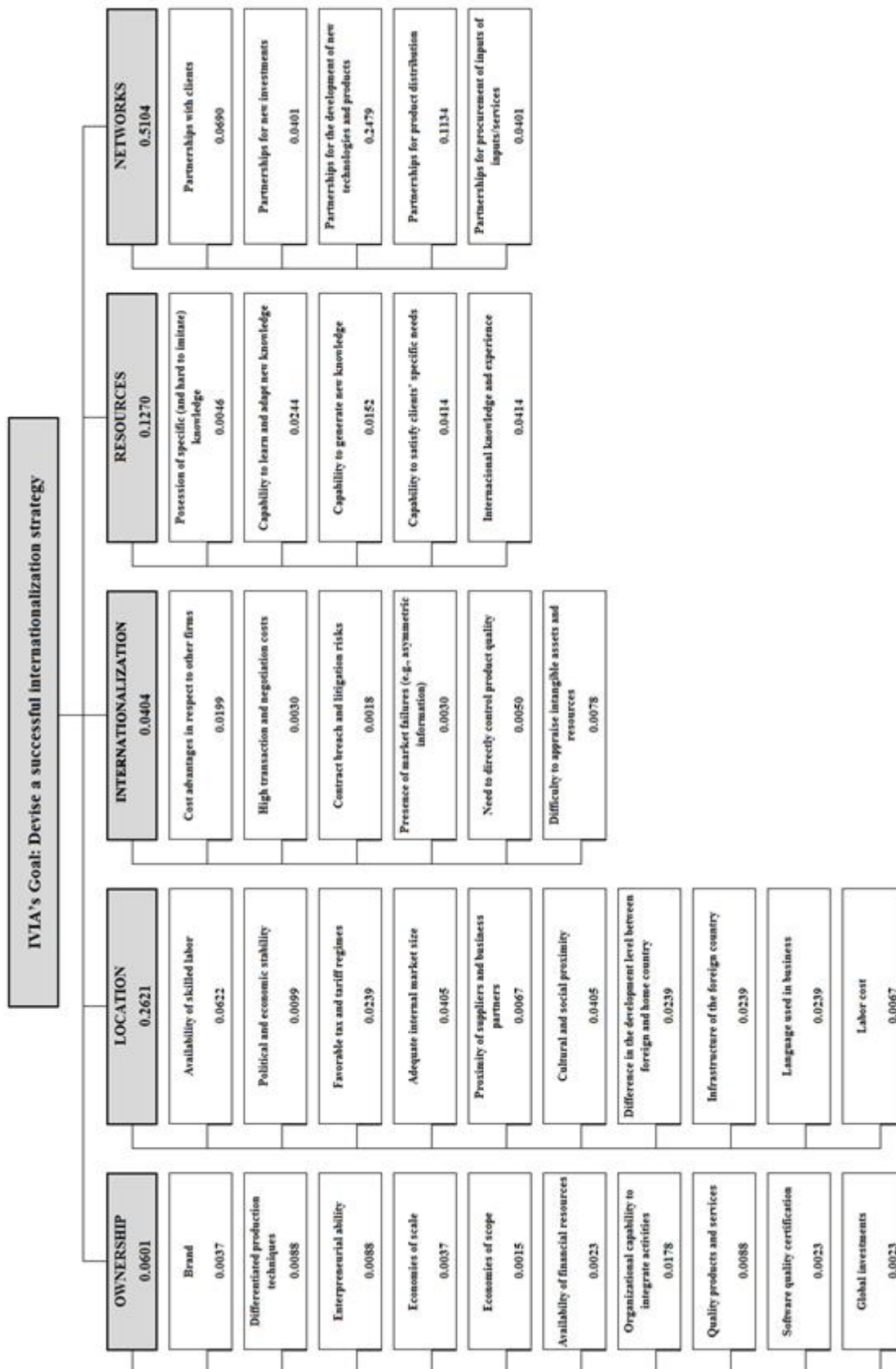


Figure 1: Factors and Sub-Factors Relative Weights in Ivia's Case

Source: Elaborated by the authors.

The second factor in terms of relative importance in accordance with Ivia's top executives' perceptions was *Location* with a relative weight of 0.2621. During the interview the executives were not very emphatic about this construct, but stressed the need for a prospective location to have some advantages such as availability of skilled labor, adequate internal market size, and some cultural and social proximity (the most important sub-factors considered). In specifically, for the development of business ventures abroad in the IT sector the availability of skilled workers seems to be indeed essential due to the technical nature of the activity. As service providers, having a good prospective market is an incentive to invest and/or expand, and a certain cultural and social proximity as well as the presence of a known or fairly close language used in business (e.g., English and Portuguese) are factors that would facilitate transactions and the provision of services.

It is also worth mentioning that some traditional location factors such as favorable tax and tariff regimes, adequate infrastructure, and labor cost received intermediate or low final weights. Perhaps these factors are more important in the case of industries or other types of services (with lower technological content).

The third relatively most important factor in the top executives' perspective was *Resources*, with a weight of 0.1270. This represents approximately ¼ of the weight attributed to *Networks*, even though it seems intuitive that the ability to retain resources and capabilities that are hard to imitate by competitors should be highly valued by an IT company.

According to the discussion with Ivia's top executives, certain resources seem to play a much more important part in their business. They particularly emphasized the importance of their own international knowledge and experience as a fundamental factor to boost the company's internationalization process, and to make the company more eager and ready to seize opportunities abroad. They also mentioned the importance of being able to satisfy the clients' specific needs efficiently while providing high quality IT services, which involves the capability to learn and adapt new knowledge. Hence, in this context, Ivia invests on the enhancement of these capabilities by valuing, respecting and compensating its staff and their talents, and by maintaining a continuous effort to create an environment of increasing cooperation and motivation. Therefore, it is not surprising that these three sub-factors were considered relatively more important within this construct.

The other remaining factors, *Ownership* and *Internationalization*, presented a combined final weight of approximately 0.1000. In terms of *Ownership*, the organizational

capability to integrate activities was considered the most relevant sub-factor in relative terms. There is a certain connection here with the capabilities associated with the *Resource* factor. And, in terms of internationalization, more relative importance was attributed to cost advantages in respect to other firms than to other sub-factors, indicating that the firm prefers to perform activities by itself whenever the cost is lower if compared to partnership arrangements such as licensing or joint ventures.

Furthermore, the other *Ownership* and *Internationalization* sub-factors presented somewhat lower final relative weights if compared to others from different constructs. In terms of *Ownership*, for example, having a distinctive brand and other O-advantages do not seem to be relatively essential in Ivia's case, probably because it operates in a very competitive environment, where there are some strong competitors that may also have these advantages. Furthermore, globalization is not restricted nowadays to large companies, especially in very dynamic sectors, as mentioned before (KNIGHT; CAVUSGIL, 2009) and, then advantages that arise from company size tend to play a less important role in this context.

Finally, in terms of internationalization, the importance of building strong and steady partnerships within a network composed by business partners, clients, suppliers, and research and development institutions, emphasized by Ivia's top executives, not to mention an ability to adapt to different environments due to the presence of valuable resources, make the risk of contract breaches and engaging in litigation fairly small, reduces transaction costs, and make problems related to market failures (e.g., asymmetric information) relatively less important.

## 7 CONCLUDING REMARKS

This paper applied the AHP methodology in Ivia's case in order to provide some insights regarding which factors and sub-factors are more important to IT firms from Brazil in order to devise successful internationalization strategies.

As the analysis indicated, Ivia's internationalization strategy focused primarily on the formation of strong and steady partnerships with foreign IT service providers, clients, and research and development institutions, in order to seize opportunities abroad. For that, the company exploited location advantages and resources, which include the international knowledge and experience of the top managers and the capability to satisfy its clients' specific needs through the development of customized products and services. Furthermore,

other advantages arising from ownership and internationalization factors seemed to have played a less significant part, in relative terms, if compared to other factors.

These results need to be corroborated with other cases in order to contribute more to theory development regarding the internationalization strategies of Brazilian IT firms. Therefore, as a suggestion for additional research, other successful cases should be analyzed and their results should be confronted with the ones found here.

Furthermore, in terms of strengths and limitations of the method used, according to Moura et al. (2011), the literature suggests that the AHP methodology has the following main strengths: (i) it provides a formal structure to the problem; (ii) it is based on the simple comparison between pairs; (iii) it is possible to check for redundancies; and (iv) it is very versatile. However, there are a few criticisms: (i) it converts verbal comparisons into a numerical scale, which could generate problems; (ii) there are problems associated with the scale from 1 to 9; (iii) answers could have poor adherence to the questions; and (iv) the required number of comparisons could be too large.

Despite these limitations, the results found seem to be very consistent with the information provided by Ivia's top managers during the interview. Thus, the outcomes seem to provide relevant diagnostics of how the RBV, OLI and Network theories could contribute to IT firms. The results may be useful to executives and researchers of strategic management and to those who want to study deeper this field.



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## AS ESTRATÉGIAS DE INTERNACIONALIZAÇÃO DE FIRMAS DA TECNOLOGIA DE INFORMAÇÃO DO BRASIL: UMA ANÁLISE PELO MÉTODO AHP DO CASO DA IVIA

### RESUMO

Um grande número de referências na literatura descreve o processo de internacionalização de diversas firmas pelo mundo; entretanto é imperativo compreender como as firmas de países emergentes se comportam quando elas decidem se internacionalizar. Este artigo busca compreender quais são os principais fatores que aumentam a probabilidade de sucesso do processo de internacionalização de firmas de tecnologia da informação do Brasil de acordo com três teorias: *OLI*, *RBV* e *Networks*. O caso da empresa Ivia foi selecionado e entrevistas em profundidade foram efetuadas com os seus três principais executivos. Essa pesquisa utilizou o método AHP (*Analytic Hierarchy Process*) visando avaliar a importância relativa de fatores e subfatores propostos para as teorias em consideração. Os resultados indicaram que a estratégia de internacionalização da Ivia focou primariamente na formação de parcerias fortes e estáveis com provedores estrangeiros de serviços de tecnologia da informação, clientes e instituições que desempenham atividades de pesquisa e desenvolvimento, visando aproveitar oportunidades no exterior. A empresa explorou vantagens locais e recursos, que incluem o conhecimento e a experiência internacional de seus principais gestores e a capacidade de satisfazer as necessidades específicas dos seus clientes através do desenvolvimento de produtos e serviços customizados. Esses resultados podem ser úteis para executivos e pesquisadores de gestão estratégica e, também, para aqueles que querem se aprofundar nessa temática.

**Palavras-chave:** Tecnologia da informação. Internacionalização. Estratégia. AHP. Ivia.